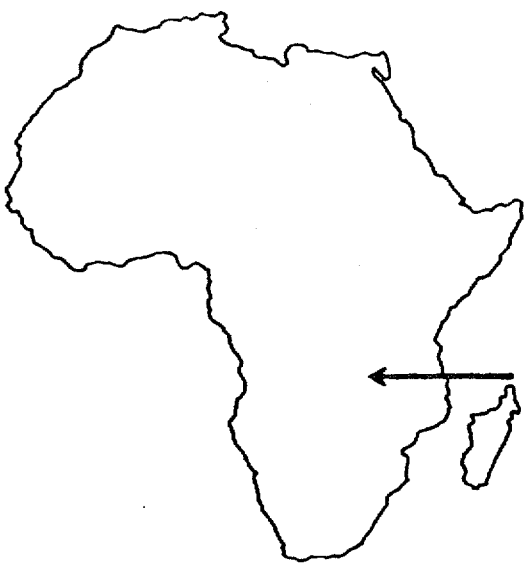
# Blantyre Integrated Malaria Initiative




# BIMI

## FIRST YEAR ANNUAL PLAN

**1996 - 1997**

## GLOSSARY OF ACRONYMS

| | |
|---|---|
| **AIMI** | **Africa Integrated Malaria Initiative** |
| **BIMI** | **Blantyre Integrated Malaria Initiative** |
| **CDC** | **Centers for Disease Control** |
| **CHAM** | **Christian Health Association of Malawi** |
| **DDM** | **Data for Decision Making** |
| **DHO** | **District Health Office** |
| H/MIS | Health/Management Information Systems |
| IEC | Information, Education and Communication |
| IIMs | Insecticide Impregnated Materials |
| IMCI | Integrated Management of Childhood Illness |
| KAP | Knowledge, Attitude, Practice |
| LOE | Level Of Effort |
| MOHP | Ministry of Health and Population |
| MSTG | The Malawi Standard Treatment Guidelines |
| NGO | Non Governmental Organization |
| PSI | Population Services International |
| QA | Quality Assurance |
| RHO | Regional Health Office |
| S-P | Sulphadoxine Pyrimethamine |
| USAID | U.S. Agency for International Development |

# EXECUTIVE SUMMARY

The Blantyre Integrated Malaria Initiative (*BIMI*) is a five-year effort (1996-2001) jointly supported by USAID and the Government of Malawi. The purpose of *BIMI* is to support sustainable and effective management and prevention of malaria-related illness. *BIMI* aims to enable health workers and home caretakers to manage and prevent malaria-related death and serious illness through investments in in-service training, behavioral change, improved management and administrative systems, quality assurance and health financing.

*BIMI* is part of USAID's regional program *The Africa Integrated Malaria Initiative (AIMI)* which is undertaking similar projects in Kenya, Zambia and Mozambique. Malawi is a particularly attractive site for district implementation of the malaria initiative because of the country's history of innovative approaches to malaria research and control.

This document presents a specific set of activities to be undertaken during *BIMI*'s first year, including the activities' rationale, timing, skill requirements, level of effort, and expected end-of-year product. In addition indicators for use in monitoring and evaluating BIMI's progress towards achieving its five year objectives are discussed. Preparation of the Plan was a participatory process involving key *BIMI* stakeholders and partners, including representatives from local governments, hospitals, rural clinics, the private sector, NGOs and villages.

# CHAPTER 1

# INTRODUCTION

## 1. BACKGROUND

Malaria Profile: In Malawi, malaria infection and disease represent formidable problems. Reports from the National Health Information System indicate malaria is one of the major causes of death among children under the age of 5 years and the leading cause of illness - accounting for more than 40% of all outpatient department visits in the country. When combined with anemia, malaria accounts for 31% of inpatient deaths among children under five.

A USAID supported K.A.P. survey conducted in 1992 found that children under the age of five experienced fever illness symptomatic of malaria 9.7 times a year; women of reproductive age experienced 6.9 episodes annually. The economic toll on the families and the Government of Malawi (GOM) is considerable with the average family estimated to spend from 5% to 26.8% of its annual income on treating and preventing malaria. Annual expenditure for treatment by GOM are approximately 10% of the national budget.

GOM Malaria Policy: The 1996-2000 *Malawi National Plan for Malaria Control* aims at strengthening disease management with emphasis on early diagnosis, appropriate treatment, and the availability of treatment at the community level. The plan also cites continued surveillance of the efficacy of antimalarial drugs and the introduction of insecticide impregnated materials (IIMs) as integral components of the national strategy.

Among the GOM most noted accomplishments in malaria control was a 1993 change in national malaria drug policy making Malawi the first country in Africa to change officially its national drug policy, replacing chloroquine with sulfadoxine pyrimethamine, S-P (Fancidar). This policy change came in response to the growing spread of chloroquine resistant strains of malaria parasites and corresponding increase in deaths and cases of severe malaria. The impact of Malawi's drug policy change has been rapid and dramatic. Despite increased hospital admissions for malaria among under-five children - up 22.7% from 1992 through 1995 - the case fatality rate declined by 12.9% for all malaria, 18.8% for cerebral malaria and 13.3% for anemia. In 1995 this translated into an estimated 2,000 deaths averted.

Among the specific objectives for the national malaria plan are:

- Reduce by 30% the 1995 level of mortality due to malaria among children under five by the year 2000.

- Reduce by 30% the 1995 incidence of severe and complicated malaria among children under the age of five by the year 2000.

Blantyre District Profile: Blantyre District is in the Southern Region of Malawi with an area of 2,000 sq.km and a population of approximately 800,000, based on 1994 estimates. Sixty nine percent of the district is considered to be urban/peri-urban, the remainder being rural with an overall distribution of 617 villages and 20 towns. According to the 1992 DHS report, children under the age of five comprise 19% of the population, totaling 152,000. Women of reproductive age, between the ages of 15 - 44, comprise 18% of the population, totaling 145,000.

The topography of the area includes undulating land masses with many seasonal streams, an elevation ranging from 0 - 2,000m and an average annual rainfall of 824 mm., principally between November and April. Agriculture is the predominant source of income, however, greater than 50% of the eligible population is unemployed. The average annual income for Blantyre is $230 with 60% of the population earning less than $40 per annum. The ethnicity of the area is diverse, however, the principal ethnic group in Blantyre is Chichewa-speaking.

The City of Blantyre covers a catchment area of about 500,000 people and the main government hospital in the city is the Queen Elizabeth Central Hospital. In all, 29 health facilities exist in the district with 22 under the Ministry of Health, 5 under the Christian Health Association of Malawi (CHAM) and at least two being private.

In general the health conditions in Blantyre District are poor. Inpatient records at the Queen Elizabeth Central Hospital indicate that the three leading causes of death in Blantyre are malaria, diarrhea, and respiratory infection, in that order. Infant mortality is estimated at 121 per 1000 births.

## 2. *BIMI* OVERVIEW

The Blantyre Integrated Malaria Initiative (*BIMI*) is a five-year initiative jointly supported by the Government of Malawi and USAID to strengthen the long-term prospects for malaria control in Malawi. *BIMI* is part of USAID's regional *Africa Integrated Malaria Initiative* (*AIMI*) which is undertaking similar projects in Kenya, Zambia, and Mozambique. *AIMI* is intended to lay the groundwork for regional action by its country-level efforts. Given the limited experience with large-scale integrated malaria control programming in Africa *AIMI* - and in particular *BIMI* - will start small, with an initial target population between 750,000 and 1,000,000. As *AIMI* is implemented in each of the four countries, including Malawi, it is expected more will be learnt about the optimal mix of available program options for maximum effectiveness in reducing malaria-related mortality and severe morbidity; how indigenous capability to deliver effective and sustainable malaria control can be strengthened; and, what financial, human, and logistic resources are need to expand programs beyond the district level.

**BIMI's 5 Year Objectives**

BIMI has 4 Objectives. These Objectives are the basis for BIMI's 5 Year Plan, as well as the planned activities of the first Annual Plan.

**OBJECTIVE 1** *Improved management of pediatric fever and anemia as measured by prompt and accurate diagnosis and treatment at the health facility, as well as early recognition of signs and symptoms of illness and appropriate health seeking behavior by caretakers.*

**OBJECTIVE 2** *Improved access to and demand for malaria chemoprophylaxis of pregnant women.*

**OBJECTIVE 3** *Increased demand for, access to, and appropriate use of affordable insecticide impregnated materials.*

**OBJECTIVE 4** *More effective use of human and material resources through improved collection and use of health and management information.*

<u>*BIMI*'s Strategic Approach</u>: *BIMI* promotes working within the existing district infrastructure as it builds on the experience of local governmental and private institutions, the district's community and non-governmental organizations (NGOs) and other donors in the delivery of health services while capitalizing on USAID's strengths and comparative advantages in:

- strengthening maternal and child health services.
- building partnerships between public and private sectors, and
- promoting social marketing, behavior change and communication skills

*BIMI*'s Strategic Focus: Towards achieving its four Objectives *BIMI* will focus on four interventions for malaria control:

**Diagnosis and treatment of malaria at the health facility.** At the facility level, *BIMI* will seek to improve the capabilities of health workers to correctly diagnose and appropriately treat febrile illness, anemia and maternal malaria infection in the context of other major pediatric disease control programs.

**Early recognition of malaria illness and appropriate health seeking behavior by the caretaker.** At the community/household level, *BIMI* will seek to improve the capacity at household level for early recognition of serious fever and anemia through educating caretakers on early symptoms of malaria and appropriate health seeking behavior.

**Chemoprophylaxis for pregnant women.** In order to foster increased recognition of dangers associated with maternal infection and demand for chemoprophylaxis, *BIMI* will promote the use of malaria drugs delivered through antenatal services, either as routine prophylaxis or periodic treatment during the first and second pregnancies

**Use of insecticide-impregnated materials (IIMs).** The systematic use of IIMs, especially when coupled with effective disease management, produces reduction in transmission, malaria disease and malaria deaths. *BIMI* will promote the distribution of IIMs and education of households on their appropriate use and will emphasize the involvement of microenterprises and communities.

*BIMI* and Integrated Management of Childhood Illness: To manage malaria-related illness in a health facility requires having skilled health workers capable of distinguishing between one or more potential causes of fever in addition to malaria, including ARI, measles and diarrhea. To ensure prompt and effective handling of a "febrile" child at the health facility *BIMI* promotes strengthening malaria case management capacity within the context of other major pediatric disease control programs.

The *Integrated Management of Childhood Illness (IMCI)* creates new opportunities to address malaria within the clinic setting. *IMCI*'s development of guidelines for integrated management of the major causes of pediatric illness and training of health workers to manage by clinical symptom (e.g., cough or difficult breathing, diarrhea, and fever) is consistent with *BIMI*'s more specific focus on strengthening the capacity of health care workers in "fever management".

## 3. *BIMI* - PROGRESS TO DATE

*BIMI* Advisory Committee: In April an ad-hoc group of national and district-level representatives was constituted to provide guidance and advice in the planning and implementation of *BIMI.*

Predesign assessments: A pre-design research activity to assess the quality of Blantyre District health facility performance was undertaken in May and June, 1996.

Start-up workshop: A workshop was held in Blantyre in July, 1996 to share information about the proposed *BIMI* program and solicit feedback and discussion among partners in the District prior to the design process. The specific workshop objectives included:

- introduce preliminary ideas for *BIMI*
- identify and prioritize issues - concerns and opportunities - that could affect implementation of the District activities and as such need to be considered during the design of the *BIMI* program, and
- consider possible options to address the issues and opportunities.

Participants in the workshop included public health officials from the Southern Regional Health Office, Blantyre District Health Office, the City Council of Blantyre, the central MOHP including CHSU and the National Malaria Control Committee, Blantyre District health facility staff, as well as representatives from the community, the pharmaceutical industry,and USAID.

Among the major issues identified that could affect implementation of *BIMI* were:

- The ***knowledge*** and/or ***understanding*** of health workers and caretakers about options for preventing and managing fever;

- The ***attitudes*** of health workers and caretakers towards each other and about the services provided;

- Previous ***experience***, both positive and negative, which the caretakers have had with health services;

- The technical and managerial ***capacity*** of health workers to deliver services.

## 4. IMPLEMENTATION OF *BIMI*

Roles and Responsibilities: *BIMI* is a partnership of the Blantyre District Health Office (DHO), Southern Regional Health Office (RHO), MOHP Headquarters, USAID, and the *BIMI* Advisory Committee. The roles and responsibilities of the *BIMI* partners include:

- The DHO will be expected to cover the recurring costs associated with routine delivery of health services within Blantyre, including:
    - salaries and benefits for health workers
    - provision of drugs and other recurring materials
    - infrastructure support
- The RHO will provide technical support to the DHO
- MOHP Headquarters will provide technical support to *BIMI* and policy guidance
- The *BIMI* Advisory Committee will provide guidance, review and oversight of *BIMI* activities.
- USAID will provide technical assistance in support of in-service training, behavioral change, improved management and administrative systems, quality assurance and health financing, operational research, and where appropriate provide resources for limited commodity procurements (e.g. microscopes and mosquito nets).

Management Structure: The DHO has the primary leadership responsibility for the design and implementation of *BIMI*. It is expected that *BIMI* activities will be considered an integral part of the Annual DHO Plan. In support of the DHO's leadership role USAID will provide direct management assistance through a resident *BIMI* Coordinator who will work with the DHO to coordinate and manage *BIMI*. The *BIMI* Coordinator will be hired by Population Services International as part of a agreement with USAID. This agreement will provide funds for the Coordinator's salary and all necessary administrative and management support.

# CHAPTER 2

# FIRST YEAR INPUTS AND THEIR RATIONALE

This Chapter describes *BIMI*'s planned first year inputs, by Objective, and their rationale.

***OBJECTIVE 1a*** Improved management of pediatric fever and anemia at the health facility, as measured by:

- ☞prompt and accurate diagnosis
- ☞appropriate treatment
- ☞proper counseling
- ☞appropriate referral of complicated illness
- ☞timely and appropriate supervisory support of health worker staff.

Fever is one of the major causes of outpatient visits in Malawi and one of the main reasons for in-patient admission to pediatric wards in the country. A *BIMI*-supported quality assessment of facility-based management of fever and anemia in children under five years of age showed deficiencies in many aspects of assessment, diagnosis, and in counseling. Among the findings of this study are:

- **Health workers do not conduct adequate history and physical examinations to exclude other possible causes of fever before reaching their diagnosis of malaria.** Health workers generally take the symptoms presented by the mother (fever) and make a diagnosis without further investigation.

- **Many health workers appear to have difficulty in making diagnosis of cases with multiple symptoms (cough, diarrhea, and/or ear problems), even when having done adequate history and physical examination.** Many cases of fever in association with other symptoms are not adequately diagnosed: either the crucial signs for distinguishing a pneumonia or bloody diarrhea are not sought, or because health workers appear to draw wrong conclusions from the data they do obtain. The current guidelines do not provide much assistance in dealing with multiple symptoms, even though about half of the children presented during the study were with multiple symptoms.

- **Drugs prescribed for uncomplicated malaria are generally correct, but there are dosing problems for antipyretics.** A majority of health workers prescribe S-P and an antipyretic for uncomplicated malaria, although many under-dose for the antipyretic (either less than 3-4 times a day or less than 2-3 days). Incorrect treatments for uncomplicated malaria include use of quinine, cotrimoxazole, penicillin, only an antipyretic, and no treatment.

- **Counseling of patients is generally weak.** Generally, less than half of patients or caretakers receive any counseling about S-P, home-management or when to return.

- **Treatment of anemia, whether in association with fever or not, appears unclear to health workers, and the MSTG does not provide sufficient guidance.** Interview responses about signs of malaria rarely included anemia, and treatment of anemia in children without fever do not generally include S-P. The Malawi Standard Treatment Guidelines (MSTG) only indicates that anemia should be treated with iron and folic acid, after looking into other causes.

Experience in Malawi and elsewhere tells us provision of effective and sustainable quality services requires health workers having (1) clear standards, (2) a way for identifying discrepancies, (3) competency in simple problem solving techniques, and (4) motivation to improve.

In addressing Objective 1a *BIMI*, during its first year, will give special attention to compliance with existing norms and standards (and where appropriate upgrading standards). *BIMI*'s second priority in this area will be in making clinics more "user friendly", especially for preventive services. The third high priority will be in the development and testing of new procedures, especially with regard to integrated management of fever and anemia, supervision and community outreach.

Below are the inputs directly related to Objective 1a that will be supported by *BIMI* during its first year of activities.

Input 1a.1: *Develop and field test curricula, training materials and methods for training health center staff in the integrated management of pediatric fever and anemia, including:*

- *guidelines for clinical diagnosis*
- *standards for proper treatment*
- *protocols for health worker counseling of caretaker on proper management*
- *guidelines for patient referral*
- *standards for supervision*

Input 1a.2: *Develop and field test curricula, training materials and methods for training supervisors in integrated management of pediatric fever and anemia.*

Development of these protocols need to be coordinated with the National Committee on Integrated Management of Childhood Illness which is currently preparing national guidelines and training materials for integrated management childhood illness, including fever and anemia. This coordination should include using *BIMI* for accelerated field testing of the "fever-anemia" portion of the integrated management

of the childhood illness package.

In addition, working with the national government to develop standardized guidelines for integrated management of childhood illness is of major importance. While the National Malaria Guidelines, the Malawi Standard Treatment Guidelines and the Malawi Prescribers Companion provide much information to health workers about how they should proceed when confronted with a patient they are all organized by individual presenting symptom or diagnosis, and do not provide adequate guidance for multiple symptoms or treatment of anemia (alone or in association with fever). Guidelines for antenatal care are also inadequate in the dealings with respect to S-P and pregnancy.

Input 1a.3: *Conduct a systematic problem solving assessment of the District's health system capacity to provide prompt and accurate diagnosis and treatment of pediatric fever and anemia and caretaker counseling. The methodology of this assessment will emphasize a "self-assessment" approach by the District's health team (jointly composed of health workers and supervisors) to identify problems and solutions.*

Many factors other than health worker "knowledge" affect the quality of case management - availability of drugs, quality of supervision, time management, logistics support, motivation etc. *BIMI* during its first year will support operational research at five health facilities with the dual objective of characterizing factors other than health worker "knowledge" which impact on the quality of services delivered at the health facility, while simultaneously "institutionalizing" this capability in problem identification and problem solving within the District health system for the long-term provision of quality services. The institutionalization of the capability will include training 5 quality assurance facilitators (the "QA team") - to be provided from the District Health Office - who will be responsible for facilitating the systematic problem solving assessment in the first five health facilities.

Input 1a.4: *Replication of the problem-solving assessment in five additional health facilities.*

The experience from the first problem solving assessment will serve as the basis for extending the problem solving activity to five additional health facility sites. The "QA Team" will take the lead in institutionalizing this capacity in the new sites.

Input 1a.5: *Assess household perceptions of the services provided at the health facility.*

Improving the quality of health facility services requires understanding the perceptions and experiences of "clients" including the nature of health worker-client interactions.

Input 1a.6: *Assess the malaria microscopy capability within Blantyre and develop an appropriate strategy/plan for the use of microscopes in fever diagnosis..*

The low specificity of "symptom"-based diagnostic algorithms for malaria poses special problems when faced with fever that is unresponsive to treatment. Used selectively, microscopy has proven a useful tool in aiding in identifying the cause of treatment failure (e.g. drug resistance, initial misdiagnosis). In Blantyre the existing capability and use of microscopy for malaria diagnosis will be examined to determine its appropriate role in augmenting presumptive diagnosis.

***OBJECTIVE 1b*** Improved capability of household-level care provider to manage fever and anemia, as measured by:

- ☞ improved caretaker recognition of signs and symptoms of illness
- ☞ knowledge of appropriate treatment and proper health seeking behaviors
- ☞ access to appropriate treatment by private providers.

When illness occurs several of the critical steps necessary for pediatric health can be taken in the home. These include recognizing the illness and the need for treatment, providing appropriate treatment, seeking appropriate additional care, providing continued care after receiving outside assistance and recognizing the need for further care if the child's condition worsens. The critical determinant in the case of febrile illness is whether the caretaker promptly recognizes the danger signs early and is able to promptly access appropriate care.

*BIMI* will pay special attention to characterizing the factors which affect improved household management of illness. On the basis of this information approaches for enhancing household management will be developed. Below are the inputs directly related to Objective 1b that will be supported by *BIMI* during its first year of activities.

Input 1b.1: *Assess the knowledge, beliefs, practices and behaviors of households regarding:*

- *recognition of danger signs and illness.*
- *provision of appropriate care (e.g. availability, affordability and perceived quality of services provided through the private and public sectors).*
- *barriers to patient compliance to proper treatment.*

Input 1b.2: *Identify private sector sources, such as shopkeepers, for affordable anti-malarials.*

Input 1b.3: *Based on the findings from above two activities develop a package of informational and behavior change interventions to:*

- *to improve caretaker recognition of sign and symptoms of fever*
- *educate caretakers on appropriate treatment of fever*
- *educate shopkeepers and other private sector providers on appropriate treatment of fever*
- *inform caretakers where affordable and appropriate treatment is available*

***OBJECTIVE 2a*** **Improved provision of two dose S-P treatment to pregnant women through antenatal clinics.**

The use of S-P as a two dose treatment during pregnancy (at the end of the first trimester and at the beginning of the third) is effective at reducing the risk of low birth-weight babies, an important factor for infant mortality. The *BIMI*-supported quality assessment of the provision of S-P chemotherapy through antenatal clinics showed:

- **Health workers are generally prescribing S-P during pregnancy.** Providers in all but 3 Blantyre facilities give S-P and almost all providers could correctly state the timing and dosages for S-P in pregnancy.

- **Coverage with S-P in pregnancy is still low.** Although S-P is being given to women attending antenatal clinics, more than half of these women are still not receiving the two recommended doses.

- **Counseling of pregnant women on the importance of S-P is weak.** Few women know the benefits of S-P beyond preventing them from getting ill, and health workers are not providing educational messages to women during consultation. Women also appear to have many misconceptions about S-P that need to be dispelled.

Experience tells us the use of antenatal services by women is influenced by a range of qualitative and quantitative factors. During *BIMI*'s first year special attention will be given to characterizing the existing patterns of S-P treatment during pregnancy, the knowledge of health care providers and reproductive age women of the risks of malaria infection during pregnancy and the benefits of S-P, the factors that inhibit or motivate women to seek antenatal services.

Below are the inputs directly related to Objective 2a that will be supported by *BIMI* during its first year of activities.

Input 2a.1: *Elaborate antenatal S-P treatment in Blantyre including:*

- *patterns of antenatal treatment - when during pregnancy are most women receiving their single dose of S-P?*
- *health facility factors that contribute to inadequate S-P treatment, including availability of S-P, health worker knowledge and motivation.*

Input 2a.2: *Develop and field test curricula, training materials and methods for health workers aimed at improving quality of health information related to prevention of malaria infection during pregnancy.*

***OBJECTIVE 2b*** Increased recognition of high risk maternal infection, particularly primigravidae, by reproductive age women, as well as increased demand for appropriate chemotherapy.

Timely delivery of a two dose treatment of S-P to women during pregnancy requires not only the availability of adequate services through the antenatal clinics but reproductive age women being knowledgeable of:

- the risks associated with malaria infection during pregnancy
- the benefits of S-P treatment and the importance of the two dose treatment
- where S-P treatment is available.

*BIMI* through Objective 2a will specifically address the availability of quality provision of S-P through antenatal clinics. Under Objective 2b *BIMI* will focus on "demand creation" for appropriate S-P treatment by reproductive age women. Below are the inputs directly related to Objective 2b that will be supported by *BIMI* during its first year of activities.

Input 2b.1: *Assess the knowledge, beliefs, practices, and behaviors of reproductive age women regarding:*

- *use of antenatal services*
- *recognition of the high risks associated with malaria infection during pregnancy*
- *benefits of S-P*
- *potential side-affects of S-P*

Input 2b.2: *Develop and field test IEC materials and training protocols to maximize the demand for two dose S-P treatment.*

**OBJECTIVE 3** **Increased household demand, access, and appropriate use of affordable insecticide impregnated materials.**

Recent field trials in a number of sub-Saharan Africa settings have confirmed the efficacy of insecticide impregnated materials for improving survival and provide the first evidence of their specific role in reducing severe, life-threatening illness for malaria.

The major conclusion drawn from the studies is impregnated materials can reduce deaths by as much as 35% in young children in areas of diverse transmission patterns and differences in seasonality.

While IIMs have been shown a promising tool for prevention of malaria experience in Malawi and elsewhere indicate practical modalities for the delivery of IIM programs will depend on:

- sustained public demand for nets/curtains and insecticides
- adequate access by the public to IIMs (netting/curtains and insecticides)
- affordable IIMs
- effective IEC campaigns promoting appropriate use

The long-term success of the IIM programs will likely require "creative" financing measures to minimize subisidization of the IIM products, a commitment to local capacity building and the forging of strong partnerships with local institutions. With these lessons in mind in its first year *BIMI* will give special attention to:

- exploring with local institutions options for providing affordable IIM products and services, including the feasibility of making available financing options to off-set the relatively high cost of nets/curtains and re-impregnation services. In this way *BIMI* will attempt to minimize the extent to which its products (nets/curtains and retreatment services) are subsidized.

- drafting a long-term plan for institutionalizing in Blantyre an organizational capacity to plan, manage and implement the full range of IIM services, including procurement and distribution of nets/curtains and insecticides for re-impregnation, and IEC for "demand creation" and the promotion of appropriate use.

- working with the District Health Office, the *BIMI* Advisory Committee and USAID to assist PSI with its planning and implementation of IIM activities.

During *BIMI*'s first year information on knowledge, availability, cost, product preferences and cultural perceptions will be collected, an IIM implementation plan developed and products made available.

Below are the inputs directly related to Objective 3 that will be supported by *BIMI* during its first year of activities.

Input 3.1: *Determine the factors affecting use of IIMs, with special focus on:*

- *DEMAND for IIM materials (nets/curtains) and insecticide - what are issues that affect knowledge about IIMs and their acceptability?*
- *ACCESS to IIM services - what are issues that affect distribution of nets/materials, insecticides and IEC/behavioral change messages? what are distribution options given the existing public, private sector and NGO sector infrastructure?*
- *AFFORDABILITY of IIM services - what is the willingness and ability of the public to pay for IIMs?, what are the comparative costs of bednets vs. curtains?, what are realistic financing schemes for offsetting the cost of IIMs? what is the cost-effectiveness of using local labor for production of curtains?*
- *APPROPRIATE USE of IIMS - what are the behavioral patterns that could affect use (e.g. sleeping location, time, beds vs floor)?, what is the physical environment where IIMs will be used - do they favor bednets or curtains?, what is already known about IIMs, insecticides and their use?, what are the community events that could promote re-impregnation and IEC messages?*

Input 3.2: *Develop and test materials and approaches leading to the delivery of a full range of IIM services including:*

- *IEC materials and training protocols to promote increased public "demand" for as well as "appropriate use" of IIMs.*
- *FINANCING STRATEGIES for maximizing the "affordability" of IIMs.*
- *drafting a LONG-TERM ACTION PLAN - taking into account private, public and NGO sector capabilities - for distribution and institutionalization of IIM-related activities, including netting/curtains, insecticides/retreatment services and IEC.*

Input 3.3: *Define the roles, responsibilities and organizational relationship of PSI/Malawi, USAID, the Blantyre DHO, the Blantyre Advisory Committee and the BIMI Coordinator in planning, coordinating and implementing IIM activities.*

***OBJECTIVE 4*** **More effective use of human and material resources through improved collection and use of health and management information for planning and monitoring of BIMI-related activities.**

Ensuring resources - human and material - are WHERE they need to be WHEN they are needed and are being USED and or FUNCTIONING correctly requires planners making decisions that respond to the priority needs of the community. Determining "needs" requires appropriate information available at all levels of the health and management information systems, and, in turn, "use" and "performance" need be linked to a routine "feedback" process.

Below are the inputs directly related to Objective 4 that will be supported by *BIMI* during its first year of activities.

Input 4.1: *In BIMI's first year Blantyre district's existing health facility H/MIS and community-based information systems will be assessed to determine its capability to enhance planning, monitoring and staff performance. Recommendations will be made for improved performance.*

# CHAPTER 3

## FIRST YEAR PLANNED ACTIVITIES AND EXPECTED OUTPUTS

This Chapter summarizes the activities planned for *BIMI*'s first year. The relationship of each activity to the inputs described in Chapter 2, the kinds of personnel required to implement the activity, the expected level of effort required, timing (by quarter) and the expected output from each activity are presented in the attached Table.

During *BIMI*'s first year a total of 14 activities are planned. Of these four are operational research surveys.. The information gathered from these studies will form the basis for 3 community/household-level activities to be undertaken in the first year of *BIMI*. Six additional activities follow up issues/observations identified by the *BIMI*-supported quality assessment of facility-based management of fever and malaria-related illness. One activity is planned to address the cross-cutting requirements of health facilities and communities for improved use of human and material resources.

| | *SURVEYS* | *INPUT* | *KEY PERSONS* | *LOE* | *QUARTER* | | | | EXPECTED OUTPUTS |
|---|---|---|---|---|---|---|---|---|---|
| #1 | Conduct a formative survey to determine the "knowledge, practices, behaviors and beliefs" related to pediatric fevers (malaria) and anemia, malaria and pregnancy, and use if insecticide impregnated mosquito nets. | 1a.5<br>1b.1 | 1-2 Soc/Anthro<br>4-6 Interviewers | 6 weeks<br>4 weeks | XXXXXX | | | | **FORMATIVE AND QUANTITATIVE ANALYSIS** A qualitative description of factors that influence household-level management and prevention of fever and malaria-related illness. |
| #2 | Conduct a quantitative assessment of household management of children with fever, the accessibility of antimalarials in the community, the use of IIMs and the use of antenatal services for malaria-chemotherapy. | 1a.5<br>1b.1<br>2b.1<br>3.1 | 1-2 Soc/Anthro<br>4-6 Interviewers | 6 weeks<br>4 weeks | | XXXXX | | | **HOUSEHOLD ANALYSIS** Detailed analysis completed of the household-level practices related to:<br>- caretaker management of pediatric fever and anemia<br>- malaria and pregnancy<br>- IIMs |
| #3 | Conduct a survey of community-based organizations and private sector providers. | 1b.2 | 1 Program Resource Specialist | 2 weeks | | XXXXX | | | **CATALOGUE OF CBOs AND PRIVATE SECTOR PROVIDERS** A detailed catalogue of community-based organizations and private sector groups within Blantyre, including an assessment of their capabilities to provide services related to household management of illness (e.g. distribution of S-P) and IIMs |
| #4 | Assess options for an IIM distribution system: netting/curtains, insecticides and IEC. | 3.2 | 1 Marketing Specialist | 2 weeks | XXXXX | | | | **DISTRIBUTION PLAN FOR IIMs** An organizational plan for distribution of IIM-related activities, including netting/curtains, insecticides and IEC. |

| | ACTIVITIES | INPUT | KEY PERSONS | LOE | QUARTER | | | | EXPECTED OUTPUTS |
|---|---|---|---|---|---|---|---|---|---|
| | **Objective 1a: Facility management of fever and anemia** | | | | | | | | |
| 1a.1 | Develop and field test a training package for health workers in diagnosis and treatment of pediatric fever and anemia, and in the provision of out-patient counseling. | 1a.1 | 1 IMCI Specialist<br>1 Trainer<br>1 Asst. Trainer | 8 weeks<br>"<br>" | xxxxx | xxxxx | | | **IMCI TRAINING PACKAGE FOR FEVER AND ANEMIA** Curricula, training materials and methods are developed for training district health center staff in the integrated management of pediatric fever and anemia, including:<br>- guidelines for clinical diagnosis<br>- standards for proper treatment<br>- protocols for health worker counseling of caretaker on proper management of illness<br>- guidelines for patient referral |
| 1a.2 | Develop and field test a training package for supervision. | 1a.2 | 1 IMCI Specialist<br>1 Trainer<br>1 Asst. Trainer | 4 weeks<br>"<br>" | | xxxxx | | | **IMCI TRAINING PACKAGE FOR SUPERVISORS** Curricula (including standards for supervision), training materials and methods for training supervisors in integrated management of pediatric fever and anemia developed. |
| 1a.3 | Conduct a systematic problem-solving assessment of the District health system of factors that affect health facility performance in diagnosis and treatment, and out-patient counseling. | 1a.3 | 1 QA Trainer<br>1 Asst. Trainer<br>5 Trainees<br><br>5 QA Team mem<br>1 QA Trainer<br>20 HW Trainees | 2 weeks<br>"<br>1 week<br><br>2 weeks<br>"<br>1 week | xxxxx | <br><br><br><br>xxxxx | | | **TRAINED "QA TEAM"** Five representatives from DHO will have been trained as a quality assurance problem identification and solving team.<br><br>**PROBLEM SOLVING ANALYSIS** On-going problem identification and solving analysis in 5 health facilities |

| | ACTIVITIES | INPUT | KEY PERSONS | LOE | QUARTER | | | | EXPECTED OUTPUTS |
|---|---|---|---|---|---|---|---|---|---|
| | **Objective 1a: Facility management of fever and anemia (continued)** | | | | | | | | |
| 1a.4 | Replicate the problem solving activity (1a.3) in 5 additional health facilities. | 1a.4 | 5 QA Team<br>1 QA Trainer<br>20 HW Trainees | 2 weeks<br>"<br>1 week | | | | xxxxx | **REPLICATION OF PROBLEM SOLVING ANALYSIS** Extension of health facility problem solving capacity to 5 additional health facilities begun by fourth quarter. |
| 1a.5 | Examine the role of microscopy in fever management. | 1a.6 | 1 Malariologist | 2 weeks | xxxxx | | | | **MICROSCOPY PLAN OF ACTION** District strategy and plan for the use of microscopy in fever management developed, including preparation and production of curricula, training materials and methods. |

| | ACTIVITIES | INPUT | KEY PERSONS | LOE | QUARTER | | | | EXPECTED OUTPUTS |
|---|---|---|---|---|---|---|---|---|---|
| | **Objective 1b: Household management of fever** | | | | | | | | **BEHAVIORAL CHANGE PACKAGE FOR HOUSEHOLD MANAGEMENT OF FEVER**<br>A package of behavioral change interventions to:<br>- improve caretaker recognition of danger sign and symptoms of fever (based on Survey #2)<br>- ensure appropriate treatment of fever in the household (based on Survey #2)<br>- inform caretakers where appropriate treatment is available from public and private sector providers (based on Survey #'s 2 and 3)<br>- educate private shopkeepers on appropriate treatment for pediatric fever (based on Survey #3) |
| 1b.1 | Develop and field test IEC materials and training protocols to improve household-level management of fever | 1b.3 | 1 IEC Specialist<br>1 Trainer | 8 weeks<br>" | | | xxxxx | | |

| | ACTIVITIES | INPUT | KEY PERSONS | LOE | QUARTER | | | | EXPECTED OUTPUTS |
|---|---|---|---|---|---|---|---|---|---|
| | **Objective 2a: Provision of malaria chemotherapy through Antenatal Clinics** | | | | | | | | **ANTENATAL CLINIC S-P PLAN A** strategy/plan to maximize provision of two-dose S-P treatment of pregnant women through antenatal clinics drafted and ready for field testing |
| 2a.1 | Elaborate:<br>- Patterns of antenatal S-P treatment in the district<br>- Health facility factors that contribute to inadequate S-P treatment<br>- Factors that influence the demand/use of S-P therapy by pregnant women<br>- Issues around provision of S-P by CHAMS | 2a.1<br>2a.2 | 1 Maternal Health Specialist<br>1 Malariologist<br>1 CHAM rep | 3 weeks<br>"<br>" | | XXXXX | | | |
| | **Objective 2b: Demand for malaria chemotherapy during pregnancy** | | | | | | | | **BEHAVIOR CHANGE PACKAGE FOR MALARIA AND PREGNANCY** A package of behavioral change interventions targeting reproductive age women on risks of malaria infection during pregnancy and promoting appropriate health seeking behavior completed. The package specifically addresses:<br>- two-dose S-P treatment regimen (based on Survey # 2 and Activity 2a.1)<br>- prompt treatment of fever during pregnancy (based on Survey #2)<br>- where affordable and effective services are available from public and private sector providers community (based on Survey #3) |
| 2b.1 | Develop and field test IEC materials and training protocols to "create demand" for two-dose antenatal malaria chemotherapy | 2b.2 | 1 IEC Specialist<br>1 Trainer | 8 weeks<br>" | | | XXXXX | | |

| | ACTIVITIES | INPUT | KEY PERSONS | LOE | QUARTER | | | | EXPECTED OUTPUTS |
|---|---|---|---|---|---|---|---|---|---|
| | **Objective 3: Insecticide Impregnated Mosquito Nets** | | | | | | | | |
| 3.1 | Design and implement a comprehensive plan for IIMs | 3.2<br>3.3 | 1 Marketing Specialist<br>1 Program Specialist | Quarter 3 & 4<br>" | | | xxxxx | xxxxx | **AN IIM IMPLEMENTATION PLAN** A comprehensive plan for implementation of IIMs developed, field tested and ready for large-scale implementation. The plan addresses maximizing:<br>- "demand creation" for nets/curtains and insecticides (based on Survey #2)<br>- access to nets/curtains, insecticides, and IEC/behavioral change messages (based on Survey #s 3 and 4)<br>- affordability of nets/curtains and recurring costs of re-impregnation (based on Survey #s 2 and 4)<br>- appropriate use of IIMs (based on Survey #2) |
| | **Objective 4: Planning and Monitoring** | | | | | | | | |
| 4.1 | Evaluate the District H/MIS and community-based information systems. | 4.1 | 1 H/MIS Specialist<br>1 DDM Specialist | 3 weeks<br>" | | xxxxx | | | **DATA MANAGEMENT PLAN** A strategy/plan to improve the quality and maximize the appropriate use of health and management information to enhance planning, monitoring and staff performance in the delivery of BIMI activities developed and field tested. |

# CHAPTER 4

## BIMI MONITORING AND EVALUATION PLAN

This Chapter describes the end-of-project (5 year) targets, the indicators and the means of verification (when, periodicity, data source, methods) to be used for monitoring and evaluating BIMI. During the first year BIMI will focus on process objectives. In later years impact and outcome objectives will become increasingly important for evaluation of program progress.

<<<<<<>>>>>>

**OBJECTIVE 1: TARGET**

***30% Reduction of the 1996 mortality level due to malaria among children under five by the year 2000***

**PROGRAM ELEMENT:** **Objective 1a: FACILITY LEVEL CASE MANAGEMENT**

**IMPACT OBJECTIVE:** Reduction in mortality and severe morbidity related to cerebral malaria and anemia

***INDICATORS***

a. Numbers of deaths attributed to malaria among children under the age of 5 years admitted annually in a select number of sentinel health facilities (case fatality rate).

b. Cases of severe illness attributable to malaria among children under the age of 5 years diagnosed annually in out-patients presenting in a select number of sentinel health facilities.

**OUTCOME**
**OBJECTIVE:** Improved facility-based management of pediatric fever and anemia.

*INDICATORS*

a. The proportion of patient encounters in which health workers correctly:
   - apply standard criteria for diagnosis fever and anemia.
   - provide treatment in accordance with national policy
   - provide appropriate counseling of caretaker on proper management
   - provide appropriate referral for complicated illness

b. The proportion of encounters in which supervisors correctly apply national standards of supervision in support of health worker performance.

c. The proportion of health workers who report one or more visits from supervisors in the previous month

d. The proportion of health facilities with at least one health worker, currently practicing, who was trained in integrated management of fever and anemia and who
   - correctly state national standards for diagnosis and treatment, and
   - know the appropriate counseling messages to be given to caretakers

**PROCESS**
**OBJECTIVE:** To increase the knowledge and technical capability of health workers and their supervisors

*INDICATORS*

a. The proportion of health facilities with at least one responsible supervisor, currently practicing, who was trained in standards of supervision of integrated management of fever and anemia and who can correctly state these standards.

<<<<<<>>>>>>

**PROGRAM ELEMENT:** **Objective 1b - HOUSEHOLD MANAGEMENT OF FEVER/ANEMIA**

**IMPACT OBJECTIVE:** N\A

*INDICATORS* N\A

**OUTCOME OBJECTIVE:** Improved household-level management of pediatric fever by care provider

*INDICATORS*

a. The proportion of caretakers who report that treatment was started within 24 hours of the fever onset, among caretakers of children with fever in the past two weeks.

b. The proportion of caretakers of children seen for fever diagnosed as malaria in a health facility in the past two weeks who report the child completed the nationally recommended course of treatment.

c. The proportion of caretakers who sought appropriate additional care when the child's condition did not improve or worsened.

d. The proportion of caretakers who were within 30 minute walk of affordable and appropriate treatment for uncomplicated malaria from either the public or private sector.

e. The proportion of caretakers who correctly recognize signs and symptoms of fever and state that fever in a child requires prompt treatment.

f. The proportion of caretakers who correctly stated the national treatment protocol for uncomplicated malaria.

g. The proportion of caretakers who knew where to seek additional care when the condition did not improve or worsened

h. The proportion of shopkeepers who correctly stated treatment for uncomplicated malaria.

**PROCESS**

**OBJECTIVE:** To increase the knowledge of caretakers and shopkeepers on appropriate household management of fever and promote appropriate health seeking behaviors

***INDICATORS***

a. The proportion of caretakers who have received IEC messages on (1) signs and symptoms of fever, (2) appropriate treatment, including referral, (3) where treatment is available.

b. The proportion of shopkeepers who have received IEC messages on appropriate treatment.

<<<<<<>>>>>>

**OBJECTIVE 2: TARGET**

***30% Increase over the 1996 levels of 2-dose S-P treatment during pregnancy by the year 2000***

**PROGRAM ELEMENT:** **Objective 2a - MALARIA AND PREGNANCY: HEALTH FACILITY-LEVEL**

**IMPACT OBJECTIVE:** N\A

***INDICATORS*** N/A

**OUTCOME OBJECTIVE:** Improved provision of two-dose S-P treatment to pregnant women through antenatal clinics.

***INDICATORS***

a. The proportion of patient encounters in which health workers appropriately prescribe S-P and educate pregnant women about S-P during visits to antenatal clinics.

b. The proportion of pregnant women who report at time of delivery they have taken 2-dose S-P treatment correctly during pregnancy

c. The proportion of health workers who can correctly state treatment and schedule for malaria chemotherapy for pregnant women.

**PROCESS OBJECTIVE:** To increase the knowledge and technical capability of antenatal health workers about malaria and pregnancy

***INDICATORS***

a. The proportion of antenatal clinics with at least one health worker, currently practicing, who was trained in S-P treatment for pregnant women.

<<<<<<>>>>>>

**PROGRAM ELEMENT:** **Objective 2b - MALARIA AND PREGNANCY: HOUSEHOLD-LEVEL**

**IMPACT OBJECTIVE:** N\A

***INDICATORS*** N\A

**OUTCOME OBJECTIVE:** Increased knowledge about the risk of malaria infection during pregnancy and demand for S-P 2-dose treatment protocol by pregnant women.

***INDICATORS***

a. The proportion of women requesting S-P treatment during visits to antenatal clinics

b. The proportion of pregnant women who correctly identify the risks associated with malaria infection during pregnancy

c. The proportion of pregnant women who correctly identify the benefits of S-P treatment and the 2-dose protocol.

d. The proportion of pregnant women who know where S-P is available for chemotherapy.

**PROCESS OBJECTIVE:** Increased knowledge among reproductive age women about the risks of malaria infection during pregnancy and the benefits of a 2-dose S-P treatment protocol.

***INDICATORS***

a. The proportion of pregnant women who have received IEC messages on (1) the risks of malaria infection during pregnancy, (2) on the benefits of S-P, (3) 2-dose treatment, (4) and, the availability of treatment during routine antenatal checkups at local clinics.

<<<<<<>>>>>>

**OBJECTIVE 3: TARGET**

*70% use by the local community of IIMs*[1]

**PROGRAM ELEMENT:** **Objective 3 - INSECTICIDE IMPREGNATED MATERIALS**

**IMPACT OBJECTIVE:** N\A

*INDICATORS* N\A

**OUTCOME OBJECTIVE:** Increased community and household demand, access and appropriate use of affordable insecticide impregnated materials.

*INDICATORS*

a. The proportion of households that regard IIMs as a high priority item.

b. The proportion of households with bednets

c. The proportion of households with bednets that are being principally used by children under the age of 5 years and/or pregnant women.

d. The proportion of households with bednets/curtains that are appropriately hung during evening hours.

e. The proportion of households who have re-impregnated their nets/curtains in the past 6 months.

---

1 **This assumes a district population of roughly 800,000 and that each net provides coverage to approximately 2.5 people**

**PROCESS OBJECTIVE:**

(1) To increase the knowledge of households on benefits of IIMs and promote increased demand.

*INDICATORS*

a. The proportion of households that have received IEC messages on the benefits of IIMs.

(2) To increase public access to IIM services.

*INDICATORS*

a. The proportion of households within 10 km of distribution point for nets/curtains, insecticides/re-treatment services and IEC messages.

(3) To increase appropriate use of nets/curtains.

*INDICATORS*

a. The proportion of targeted households with at least one member trained in net use, impregnation, and maintenance.

<<<<<<>>>>>>

**PROGRAM ELEMENT:** **Objective 4 - PLANNING AND MONITORING**

**IMPACT OBJECTIVE:** N\A

*INDICATORS* N\A

**OUTCOME OBJECTIVE:** More effective use of human and material resources through improved collection and use of better quality of health and management information for planning and monitoring

*INDICATORS*

a. The proportion of planners who have used health facility H/MIS data in preparing their drug procurement plans.

b. The proportion of facilities reporting no ruptures in stocks of antimalarial drugs during the last 3 months, and supplies were sufficient to treat all patients during the time period.

c. The proportion of health facilities that submitted completed monthly mortality and morbidity reports on time.

d. The proportion of health facilities that have received feedback from the DHO on their reports during the past 3 months.

e. The proportion of antenatal clinics who did not report a stock-out of S-P over the past 12 months.

**PROCESS OBJECTIVE:**

(1) To increase the knowledge of planners about the importance of using health and management information for decision making.

*INDICATORS*

a. The proportion of planners who have received training in the use of information in decision making.

(2) To improve the quality and simplify the collection of health management information within the District.

*INDICATORS*

a. Improvements in input and output logbooks and data collection forms instituted at all health facilities.

b. Improved and simplified summaries on health statistics developed for use in all facilities and for tabular and/or graphic representation of data.

<<<<<<>>>>>>

## MEANS OF VERIFICATION

PROGRAM ELEMENT: Objective 1a: FACILITY LEVEL:CASE MANAGEMENT

| Assess/Indicator | When? (Baseline, Midterm Continuous End) | Periodicity (Monthly, annual, before/after) | Data Source (HIS, special survey, Hospital records, clinic intake sheets) | Methods (Kap, record review, or study) | Feasibility Quality (Comparison group needed) | Who's Responsible? Clinic manager, DHO, MCP, HIS, AIMI | Cost<br>- x high<br>- high<br>- moderate<br>- mod. - low<br>- low |
|---|---|---|---|---|---|---|---|
| Impact<br><br>a. # Mortality<br>b. # Severe Morbidity<br>c. | Baseline | Annual | Special Survey (Sentinel Survey)<br>,<br>Hospital Records | Study,<br>Record Review | | BIMI, DHO, MOHP | |
| Outcome<br><br>a. HW Performance<br>b. Supervisor Performance<br>c. | Baseline | Before/After | Special Survey (QA Survey) | Study | | BIMI, DHO, MOHP | |
| Process<br><br>a HW Training<br>b Supervisor Training<br><br>c Knowledge | Continuous<br><br>Baseline | Quarterly<br><br>Before/After | BIMI Records<br><br>Special Survey (QA Survey) | Record Review<br><br>Study | | BIMI, DHO<br><br>BIMI, DHO, MOHP | |
| Input<br><br>a.<br>b.<br>c. | | | | | | | |

## MEANS OF VERIFICATION

**PROGRAM ELEMENT:** Objective 1b: HOUSEHOLD MANAGEMENT OF ILLNESS

| Assess/Indicator | When? (Baseline, Midterm Continuous End) | Periodicity (Monthly, annual, before/after) | Data Source (HIS, special survey, Hospital records, clinic intake sheets) | Methods (Kap, record review, or study) | Feasibility Quality (Comparison group needed) | Who's Responsible? Clinic manager, DHO, MCP, HIS, AIMI | Cost - x high - high - moderate - mod. - low - low |
|---|---|---|---|---|---|---|---|
| Impact<br>a.<br>b.<br>c. | NA | NA | NA | NA | NA | NA | |
| Outcome<br>a. Caretaker Performance<br>b.<br>c. | Baseline | Before/After | Special Survey (Survey #1,2) | Study | | BIMI, DHO, MOHP | |
| Process<br>a. IEC Coverage<br>b. Caretaker Knowledge<br>c. | Continuous<br>Baseline | Annual<br>Before/After | BIMI Records<br>Special Survey (Survey #1,2) | Record Review<br>Study | | BIMI | |
| Input<br>a.<br>b.<br>c. | | | | | | | |

MEANS OF VERIFICATION

PROGRAM ELEMENT: Objective 2a: HEALTH FACILITY: MALARIA AND PREGNANCY

| Assess/Indicator | When? (Baseline, Midterm Continuous End) | Periodicity (Monthly, annual, before/after) | Data Source (HIS, special survey, Hospital records, clinic intake sheets) | Methods (Kap, record review, or study) | Feasibility Quality (Comparison group needed) | Who's Responsible? Clinic manager, DHO, MCP, HIS, AIMI | Cost<br>- x high<br>- high<br>- moderate<br>- mod. - low<br>- low |
|---|---|---|---|---|---|---|---|
| Impact<br><br>a.<br>b.<br>c. | NA | NA | NA | NA | NA | NA | |
| Outcome<br><br>a. HW Performance<br><br>b Provision of SP Treatment | Baseline<br><br>Continuous | Before/After<br><br>Annual | Special Survey (QA Survey)<br>Clinic Records | Study<br><br>Record Review | | BIMI, DHO, MOHP | |
| Process<br><br>a. HW Training<br><br>b HW Knowledge | Continuous<br><br>Baseline | Annual<br><br>Before/After | BIMI Records<br><br>Special Survey (QA Survey) | Record Review<br><br>Study | | BIMI, DHO, MOHP | |
| Input<br><br>a.<br>b.<br>c. | | | | | | | |

MEANS OF VERIFICATION

PROGRAM ELEMENT: Objective 2b: HOUSEHOLD: MALARIA AND PREGNANCY

| Assess/Indicator | When? (Baseline, Midterm Continuous End) | Periodicity (Monthly, annual, before/after) | Data Source (HIS, special survey, Hospital records, clinic intake sheets) | Methods (Kap, record review, or study) | Feasibility Quality (Comparison group needed) | Who's Responsible? Clinic manager, DHO, MCP, HIS, AIMI | Cost<br>- x high<br>- high<br>- moderate<br>- mod. - low<br>- low |
|---|---|---|---|---|---|---|---|
| Impact<br><br>a.<br>b.<br>c. | NA | NA | NA | NA | NA | NA | |
| Outcome<br><br>a. Female Practice<br>b.<br>c. | Baseline | Before/After | Special Survey (Survey #1,2; QA Survey) | Study | | BIMI, DHO, MOHP | |
| Process<br><br>a. Female IEC Coverage<br><br>b. Female Knowledge<br>c. | Continuous<br><br>Baseline | Annual<br><br>Before/After | BIMI Records<br><br>Special Survey (Survey #1,2; QA Survey) | Record Review<br><br>Study | | BIMI, DHO, MOHP | |
| Input<br><br>a.<br>b.<br>c. | | | | | | | |

## MEANS OF VERIFICATION

**PROGRAM ELEMENT:** Objective 3: **PREVENTION:** IIMs

| Assess/Indicator | When? (Baseline, Midterm Continuous End) | Periodicity (Monthly, annual, before/after) | Data Source (HIS, special survey, Hospital records, clinic intake sheets) | Methods (Kap, record review, or study) | Feasibility Quality (Comparison group needed) | Who's Responsible? Clinic manager, DHO, MCP, HIS, AIMI | Cost - x high - high - moderate - mod. - low - low |
|---|---|---|---|---|---|---|---|
| Impact<br>a.<br>b.<br>c. | NA | NA | NA | NA | NA | NA | |
| Outcome<br>a. Household Performance<br>b.<br>c. | Baseline | Before/After | Special Survey (Survey # 2,4) | Study | | BIMI, DHO, MOHP | |
| Process<br>a. IEC Coverage<br>b. Household Knowledge<br>c. IIM Coverage | Continuous<br>Baseline<br>Continuous | Annual<br>Before/After<br>Annual | BIMI Records<br>Special Survey (Survey #2,4)<br>BIMI Records | Record Review<br>Study<br>Record Review | | BIMI, | |
| Input<br>a.<br>b.<br>c. | | | | | | | |

## MEANS OF VERIFICATION

**PROGRAM ELEMENT:** Objective 4: PLANNING/MONITORING

| Assess/Indicator | When? (Baseline, Midterm Continuous End) | Periodicity (Monthly, annual, before/after) | Data Source (HIS, special survey, Hospital records, clinic intake sheets) | Methods (Kap, record review, or study) | Feasibility Quality (Comparison group needed) | Who's Responsible? Clinic manager, DHO, MCP, HIS, AIMI | Cost<br>- x high<br>- high<br>- moderate<br>- mod. - low<br>- low |
|---|---|---|---|---|---|---|---|
| Impact<br><br>a.<br>b.<br>c. | NA | NA | NA | NA | NA | NA | |
| Outcome<br><br>a. Planner Performance<br>b.<br>c. | Continuous | Monthly | MIS Record | Record Review | | BIMI, DHO, MOHP | |
| Process<br><br>a. DDM Training<br>b.<br>c. | Continuous | Annual | BIMI Records | Record Review | | BIMI, DHO, MOHP | |
| Input<br><br>a.<br>b.<br>c. | | | | | | | |